

Remarks/Arguments

Claims 1-37 are now pending in this application. In the August 20, 2007 Office Action (the “Action”), Claims 1, 7, 14, 22-24, and 30 were rejected under 35 U.S.C. 102(b) as being anticipated by *Autry*, U.S. Patent No. 6,990,577 (hereinafter “*Autry*”). Claims 2-6, 15, 16, 24, 25, and 27-29 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Autry*, in view of *Forsman et al.*, U.S. Patent No. 6,665,813 (hereinafter “*Forsman*”). Claims 8-13, 17-21, 26, and 31-37 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Autry*, in view of *Forsman* and further in view of *Singer et al.*, U.S. Patent No. 7,017,040 (hereinafter “*Singer*”).

Additionally, the Action on page 1 indicates that claims 38, and 40-41 are allowable, and the applicants express appreciation for this indication of allowable subject matter. However, as discussed more fully below, the applicants respectfully request reconsideration and withdrawal of the rejected claims 1-37.

Following entry of this amendment, claims 1-38 and 40-41 will be pending in the present application. For the reasons set forth below, the applicants respectfully request reconsideration and immediate allowance of this application.

Claim Rejections Under 35 U.S.C. 102(b)

In the August 20, 2007 Office Action, claims 1, 7, 14, 22-24, and 30 were rejected under 35 U.S. C. 102(b) as being anticipated by *Autry*. The applicants respectfully traverse these rejections, and submit that *Autry* does not teach, suggest, or describe each and every recitation of these claims.

As a preliminary matter, the applicants submit that, although the Action cited *Autry* as a reference under § 102(b), *Autry* does not qualify as a reference under § 102(b). *Autry* issued as a U.S. patent on 24 January 2006. The instant application was filed on 15 December 2003, resulting in a one-year prior date of 15 December 2002 under § 102(b). Thus, *Autry* is not a § 102(b) reference based on its issue date. In addition, *Autry* published on 13 February 2003, which is after the instant application’s one-year date of 15 December 2002. Therefore, *Autry* does not qualify as a § 102(b) reference against the instant application, whether considering its issue date or its publication date.

In the interest of efficient prosecution, the applicants discuss *Autry* in these remarks, assuming only for the sake of these comments that *Autry* may qualify as a reference under

another section of § 102. However, the applicants do not concede that *Autry* is effective prior art against the instant application, and instead reserves the right to provide further arguments and/or evidence that *Autry* does not qualify as a § 102 reference.

With respect to **independent claim 1**, the applicants reproduce a portion of this claim here for ease of reference, with emphasis added here to facilitate discussion:

“building an image file, the image file comprising an *essential region* for storing program code required for booting the computer system and a *non-essential region* for storing optional program code for the computer system;”

Regarding *Autry*, this reference pertains generally to updating a BIOS image by replacing a portion of the BIOS image with a portion of another BIOS image. As stated in Paragraphs 2 and 5 of the Action, the Office applied column 2, lines 26-43 to the above portion of claim 1. For ease of reference, the Applicants reproduce here the cited portion of *Autry*, column 2:

25 In this manner, as described below, before the upgrade occurs, the existing BIOS image that is stored in the FLASH memory 97 may include a configuration data region, a region that may store, for example, data that indicates various boot options (for example) and other options that are specifically configured for the computer system 10. Thus, if
30 the BIOS is upgraded by simply overwriting the existing BIOS image with a replacement BIOS image, the existing configuration data region (that is part of the existing BIOS image) would be overwritten and significant user involvement may be needed to reconstruct the specific BIOS
35 configuration data for the computer system. However, for purposes of preventing this scenario from occurring, the computer system 10 generally performs a technique 150 (that is depicted in FIG. 2) to upgrade the system's BIOS. As described below, in the technique 150, the computer system
40 10 takes measures to preserve data from the configuration data region of the existing BIOS image and use this preserved data as the configuration data for the replacement BIOS image.

While this portion of *Autry* describes a “configuration data region” that may store data pertaining to “boot options” and “other options” for the computer system 10, the applicants respectfully submit that *Autry*'s configuration data region, considered as a whole, does not

disclose the applicant's recited "*non-essential region* for storing optional program code for the computer system" (emphasis added). Even though *Autry* discusses various "boot options" supported within its "configuration data region", *Autry* also describes the "significant" user effort involved in reconstructing the configuration data region, should a newer version of the BIOS overwrite this region (e.g., line 33). *Autry* is explicitly directed to preventing this very scenario from occurring (e.g., line 36).

In light of this teaching from *Autry*, the applicants submit that no portion of *Autry*'s "configuration data region" discloses the recited "non-essential region", because if any part of *Autry*'s configuration data region were "non-essential", then there would be no need or effort to preserve or reconstruct this part if the configuration data region were overwritten. Instead, it appears that every portion of *Autry*'s configuration data region is "essential", even those portions that support various "boot options".

For ease of discussion, the applicants also reproduce here another portion of claim 1, with emphasis added:

"following copying the image file to the non-volatile memory device in the computer system, updating *only the non-essential region* stored in the non-volatile memory device to update the optional program code for the computer system and *not updating the essential region* stored in the non-volatile memory device."

Because *Autry* does not disclose the recited "non-essential region", the applicants further submit that *Autry* also does not disclose "updating only the *non-essential region*", as recited in the above portion of claim 1. *Autry* describes preserving a portion of the data from the configuration data region of an existing BIOS image, and using this preserved data as the configuration data for the replacement BIOS image. *Autry*'s efforts toward preserving and using these portions of the configuration data region indicate that these portions are, if anything, essential regions, rather than the recited non-essential regions. Therefore, for at least these additional reasons, the applicants submit that *Autry* does not disclose "updating *only the non-essential region* stored in the non-volatile memory device ...", and thus further fails to support a § 102 rejection of claim 1.

Based at least on the foregoing comments, the applicants submit that *Autry* does not support a § 102 rejection of claim 1. The applicants thus request reconsideration and withdrawal of the stated § 102 rejection of claim 1.

With respect to **claim 7**, this claim depends from claim 1, and stands rejected on similar grounds. Therefore, the comments directed above to claim 1 apply equally to claim 7. In addition, the applicants submit that *Autry* does not disclose the additional features recited in claim 7.

With respect to **independent claim 14**, the applicants respectfully traverse the rejection of claim 14, as stated on page 3 of the action. For ease of reference, the applicants reproduce here portions of claim 14, with emphasis added to facilitate discussion:

“the non-volatile memory device for storing an image file, the image file comprising an *essential region* for storing program code required for booting the computer system and a *non-essential region* for storing optional program code for the computer system; ...

update only the non-essential region in the non-volatile memory device to update the non-essential data and not update the essential region in the non-volatile memory device.”

These features recited in claim 14 are somewhat similar to the features discussed above in claim 1, and it appears that the Office has applied similar portions of *Autry* to claims 1 and 14. Therefore, in the interests of conciseness, the applicants submit that the comments directed above to claim 1 apply equally to claim 14.

Based at least on the foregoing comments, the applicants submit that *Autry* does not support a § 102 rejection of claim 14. For at least the foregoing reasons, the applicants thus request reconsideration and withdrawal of the stated § 102 rejection of claim 14.

With respect to **claims 22-23**, these claims depend from independent claim 14, and stand rejected on similar grounds. Claim 14 was discussed above. Therefore, the comments directed above to claim 14 apply equally to claims 22-23. Further, claims 22-23 recite additional features that *Autry* does not disclose. Based at least on the foregoing comments, the applicants submit that *Autry* does not support a § 102 rejection of claims 22-23. For at least the foregoing reasons,

the applicants request reconsideration and withdrawal of the stated § 102 rejection of claims 22-23.

With respect to **independent claim 24**, for ease of description, the applicants reproduce portions of claim 24, with emphasis added to facilitate discussion:

“building an image file, the image file comprising an essential region for storing program code required for booting the computer system and a *non-essential region for storing optional program code* for the computer system; ...

following copying the essential region and the non-essential region to the non-volatile memory device, *updating only the non-essential region* in the non-volatile memory device and not updating the essential region in the non-volatile memory device.”

These features recited in claim 24 are somewhat similar to the features discussed above in claim 1, and it appears that the Office has applied similar portions of *Autry* to claims 1 and 24. Therefore, in the interests of conciseness, the applicants submit that the comments directed above to claim 1 apply equally to claim 24.

Based at least on the foregoing comments, the applicants submit that *Autry* does not support a § 102 rejection of claim 24. For at least the foregoing reasons, the applicants thus request reconsideration and withdrawal of the stated § 102 rejection of claim 24.

With respect to **claim 30**, this claim depends from claim 24, and stands rejected on similar grounds. Claim 24 was discussed above. Therefore, the comments directed above to claim 24 apply equally to claim 30. Further, claim 30 recites additional features that *Autry* does not disclose. Based at least on the foregoing comments, the applicants submit that *Autry* does not support a § 102 rejection of claim 30. For at least the foregoing reasons, the applicants request reconsideration and withdrawal of the stated § 102 rejection of claim 30.

Claim Rejections Under 35 U.S.C. 103(a)

In the August 20, 2007 Office Action, claims 2-6, 15, 16, 24, 25, and 27-29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Autry* in view of *Forsman*. The applicants respectfully traverse these rejections, and submit that *Autry* and *Forsman* do not separately or together teach, suggest, or describe each recitation of these claims, even if combined in the manner suggested by the Office.

With respect to **claim 2**, this claim depends from claim 1, so the above comments directed above to claim 1 apply equally to claim 2. In addition, the applicants reproduce claim 2 here for ease of reference:

“2. The method of claim 1, wherein the non-essential region in the image file comprises one or more non-essential blocks.”

The Applicants agree with the Office’s assessment on page 5 of the Action that *Autry* fails to disclose “the method wherein the non-essential region in the image file comprises one or more non-essential blocks”. However, the applicants submit that *Forsman* does not provide the teaching or suggestion missing from *Autry* that is necessary to support a § 103 rejection of claim 2. Turning to *Forsman*, it pertains generally to a method and apparatus for updateable flash memory design and recovery with minimal redundancy. The Office cited portions of *Forsman*’s Figure 3, which illustrates Copy A 304 and Copy B 306. *Forsman* describes these elements as follows, beginning at column 4, line 66 and continuing through column 5, line 14:

With reference now to FIG. 3, a block diagram shows the
60 structure of the firmware flash memory in accordance with
the present invention. There are two types of memory access
in Firmware Flash Memory 300. Write protected code that
cannot be updated, but it also cannot be corrupted. Read/
write code can be updated, but there is the potential for
65 corruption, so a recovery mechanism must be provided.
Write protected code 302 reboots the computer system
even if there has been some damage to the read/write code

5

in the remainder of the flash memory. There are two copies of the recovery code itself: Copy A **304** and Copy B **306**. In addition to the recovery code, all other firmware code required to configure or boot the system is stored as composite code **308**. The primary functions of the recovery code are to insure the integrity of the composite code and, if corruption is detected in the composite code, install a fresh copy of the composite code from a designated data source. The only code replication in this scheme is the two copies of the recovery code, **304** and **306**, which should be a small fraction of the replication required for full duplication of the flash memory code. To understand how this invention works, it is necessary to discuss the operations of booting the system initially and updating the boot code.

Although the Action appears to assert that *Forsman's* Copy A 304 and Copy B 306 contain non-essential blocks, the applicants submit that *Forsman* does not support this interpretation. *Forsman* discusses in column 5, lines 44-56 (describing Figure 4) how Copy A 304 and Copy B 306 operate in the updates of boot code, as reproduced here:

As shown in FIG. 4, the first step in the process (step **402**) is to execute the write protected code, as shown as code block **302** in FIG. 3. Copy A of the recovery code is scanned to generate a CRC checksum (step **404**) which is compared with the stored CRC checksum. If the recovery Copy A is detected to be corrupted (step **406**: yes), then the duplicate copy of the recovery code in Copy B, code **306** in FIG. 3, is copied into Copy A (step **408**). If Copy A is not corrupted (step **406**: no), then the CRC character for Copy B is generated (step **410**). If Copy B has been corrupted (step **412**: yes), then the recovery code in Copy A is copied into Copy B (step **414**). If Copy B has not been corrupted (step **412**: no), then both copies of the recovery code are intact.

In short, if Copy A 304 is corrupted, then Copy B 306 is copied into its place, and vice versa. *Forsman* describes elsewhere that the computer cannot boot from corrupted boot code. Therefore, the applicants submit that both Copy A 304 and Copy B 306 are essential, in the sense that both copies provide a form of backup for each other in case one of these copies becomes corrupted. Without the ability to recover using these backups, the boot code may remain corrupted, and the computer may be unable to boot. Therefore, the applicants submit that *Forsman's* Copy A 304 and Copy B 306 neither teach nor suggest "one or more non-essential

blocks”, as recited in the applicants’ claim 2. Therefore, *Forsman* and *Autry*, whether considered alone or together, do not support a § 103 rejection of claim 2.

Forsman also fails to teach or suggest the features of claim 1 that are incorporated into claim 2 by reference. Based at least on the foregoing comments, the applicants submit that *Autry* and *Forsman* do not support a § 103 rejection of claim 2. The applicants thus request reconsideration and withdrawal of the stated § 103 rejection of claim 2.

With respect to **claims 3-6**, these claims depend from claims 1 and 2. Therefore, the above comments directed above to claims 1 and 2 apply equally to claims 3-6. Further, claims 3-6 recite additional features that are not shown by *Forsman* or *Autry*. The applicants thus request reconsideration and withdrawal of the stated § 103 rejection of claims 3-6.

With respect to **claims 15-16**, these claims depend from independent claim 14, which was discussed above. Therefore, the above comments directed to claim 14 apply equally to claim 15. Further, claim 15 recites features similar to those discussed above with claim 2. Therefore, the applicants’ discussion of *Forsman* applies equally to claim 15. On at least this basis, the applicants thus request reconsideration and withdrawal of the stated § 103 rejection of claims 15-16.

With respect to **claims 25 and 27-29**, these claims depend from independent claim 24, which was discussed above. Therefore, the above comments directed to claim 24 apply equally to claims 25 and 27-29. Further, claim 25 recites features similar to those discussed above with claim 2. Therefore, the applicants’ discussion of *Forsman* applies equally to claim 25. On at least this basis, the applicants thus request reconsideration and withdrawal of the stated § 103 rejection of claims 25 and 27-29.

Claim Rejections Under 35 U.S.C. 103(a)

In the August 20, 2007 Office Action, claims 8-13, 17-21, 26, and 31-37 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Autry* in view of *Forsman* and further in view of *Singer*. The applicants respectfully traverse these rejections, and submit that *Autry*, *Forsman*, and *Singer* do not separately or together teach, suggest, or describe each recitation of these claims, even if combined in the manner suggested by the Office.

With respect to **claims 8-13**, these claims depend from claims 1 and 2, which were discussed above. Therefore, the above comments directed to claims 1 and 2 apply equally to

claims 8-13. The applicants also agree with the assessment on page 8 of the action that *Autry* and *Forsman* do not teach or disclose the method wherein the one or more non-essential blocks comprise a header. The Office thus cites *Singer* for its teachings related to headers. However, without conceding that *Singer* provides the teaching for which it is cited, the applicants submit that *Singer* fails to provide the teaching missing from *Autry* and *Forsman* to meet the features of claims 1 and 2, which are incorporated into claims 8-13. On at least this basis, the applicants request reconsideration and withdrawal of the stated § 103 rejections of claims 8-13.

With respect to **claims 17-21**, these claims depend from claims 14 and 15, which were discussed above. Therefore, the above comments directed to claims 14 and 15 apply equally to claims 17-21. The applicants also agree with the assessment on page 9 of the action that *Autry* and *Forsman* do not teach or disclose the computer system wherein the one or more non-essential blocks comprise a header. The Office thus cites *Singer* for its teachings related to headers. However, without conceding that *Singer* provides the teaching for which it is cited, the applicants submit that *Singer* fails to provide the teaching missing from *Autry* and *Forsman* to meet the features of claims 14 and 15, which are incorporated into claims 17-21. On at least this basis, the applicants request reconsideration and withdrawal of the stated § 103 rejections of claims 17-21.

With respect to **claims 26 and 31-37**, these claims depend from claims 24 and 25, which were discussed above. Therefore, the above comments directed to claims 24 and 25 apply equally to claims 26 and 31-37. The applicants also agree with the assessment on page 10 of the action that *Autry* and *Forsman* do not teach or disclose the computer-readable medium wherein the one or more non-essential blocks comprise a header. The Office thus cites *Singer* for its teachings related to headers. However, without conceding that *Singer* provides the teaching for which it is cited, the applicants submit that *Singer* fails to provide the teaching missing from *Autry* and *Forsman* to meet the features of claims 24 and 25, which are incorporated into claims 26 and 31-37. On at least this basis, the applicants request reconsideration and withdrawal of the stated § 103 rejections of claims 26 and 31-37.

Conclusion

In view of the foregoing amendment and remarks, the applicants respectfully submit that all of the pending claims in the present application are in condition for allowance. Reconsideration and reexamination of the application and allowance of the claims at an early date is solicited. If the Examiner has any questions or comments concerning this matter, the Examiner is invited to contact the applicants' undersigned attorney at the number below.

Respectfully submitted,

HOPE BALDAUFF HARTMAN, LLC

Date: November 20, 2007

/Leonard J. Hope/
Leonard J. Hope
Reg. No. 44,774

Hope Baldauff Hartman, LLC
1720 Peachtree Street, N.W.
Suite 1010
Atlanta, Georgia 30309
Telephone: 404.815.1900

